

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. (Currently Amended) A method of producing a synthetic fuel, said method comprising the steps of:
  - (a) preparing an enhanced tall-oil mix comprising a tall-oil mix and a chemicals-change enhancer; and
  - (b) adding a thinning agent to the enhanced tall-oil mix; and
  - ~~(b)~~(c) reacting said enhanced tall-oil mix with coal fines so as to obtain said synthetic fuel.
2. (Original) The method of claim 1, wherein said enhanced tall-oil mix includes approximately 10% of said chemical-change enhancer.
3. (Original) The method of claim 1, wherein said chemical-change enhancer includes one or more of materials from a group consisting of PVA, EVA, urea, glycol, lignosulfonate, beet sugar bottoms, molasses, corn bottoms, brewery bottoms, vegetable tall oil, vegetable oil, and spent frying oil.
4. (Original) The method of claim 3, wherein if said chemical-change enhancer is vegetable oil or spent frying oil, said tall-oil-mix includes approximately 25% of said chemical-change enhancer.
5. (Original) The method of claim 1, wherein said coal fines are bituminous coal fines.

6. (Currently Amended) The method of claim 1, wherein said preparing said enhanced tall-oil-mix of said step (a) and thinning it in step (b) is performed prior to said step ~~(b)~~ (c).

7. (Currently Amended) The method of claim 1, wherein said preparing said enhanced tall-oil mix of said step (a) and thinning it in step (b) occurs simultaneous with said step ~~(b)~~ (c).

8. (Original) A synthetic fuel produced by the method of claim 1:

9. (Original) The synthetic fuel of claim 8, wherein said coal fines are metallurgical bituminous coal fines.

10. (Currently Amended) A method of producing a synthetic fuel, said method comprising the steps of:

- (a) combining a tall-oil mix with a caustic solution and water to form a combination tall-oil mix;
- (b) combining said combination tall-oil mix with tar decanter sludge to form a TDS-tall-oil mix; ~~and~~
- (c) reacting said TDS-tall-oil mix with coal fines so as to obtain said synthetic fuel; and
- (d) heating said tar decanter sludge prior to forming said TDS-tall-oil mix.

11. (Original) The method of claim 10, wherein said coal fines are bituminous metallurgical coal fines.

12. (Original) The method of claim 10, wherein said step (a) includes the step of adding a chemical change enhancer to said tall-oil mix to obtain an enhanced-TDS-tall-oil mix in said step (b), and said step (c) includes reacting said enhanced-TDS-tall oil mix with said coal fines.

13. (Original) The method of claim 12, wherein said chemical-change enhancer includes one or more of materials form a group consisting of PVA, EVA, urea, glycol, lignosulfonate, beet sugar bottoms, molasses, corn bottoms, brewery bottoms, vegetable tall oil, vegetable oil, and spent frying oil.

14. (Currently Amended) The method of claim 10, wherein a thinning agent is added to said ~~enhanced~~-[ - ] TDS-tall-oil mix.

15. (Original) The method of claim 14, wherein said thinning agent is light cycle oil.

16. (Original) The method of claim 12, wherein approximately 0.5% to approximately 0.9% of said synthetic fuels is said enhanced-TDS-tall-oil mix.

17. (Original) The method of claim 16, wherein approximately 0.64% of said synthetic fuel is enhanced-TDS-tall-oil mix.

18. (Original) The method of claim 16, wherein said approximately 0.64% of said enhanced-TDS-tall-oil mix is approximately 0.29% tar decanter sludge and a thinning agent and approximately 0.35% of said combination tall-oil mix.

19. (Original) The method of claim 18, wherein said 0.35% of said combination tall-oil mix comprises approximately 28% tall oil mix, approximately 55% chemical-change enhancer, approximately 8% of a 20% caustic solution, and approximately 9% water.

20. (Original) The method of claim 12, wherein said enhanced-TDS-tall-oil mix includes at least approximately 15% of said tall-oil-mix.

21. (Canceled)
22. (Currently Amended) The method of claim 10, further comprising the step of:  
(d) grinding said TDS-tall-oil mix prior to said step (c).
23. (Canceled)
24. (Currently Amended) The method of claim 1024, further comprising the step of:  
(d) heating said tar decanter sludge and said thinning agent prior to forming said TDS-tall-oil mix.
25. (Currently Amended) The method of claim 24, further comprising the step of:  
(e) grinding said TDS-tall-oil mix prior to said step (c).
26. (Canceled)
27. (Currently Amended) The method of claim 10, further comprising the step of:  
(d) heating said TDS-tall-oil-mix to a temperature within a range of approximately 100 to approximately 135 degrees F[.] after said step (b).
28. (Original) The method of claim 27, wherein said TDS-tall-oil mix is heated to approximately 123 degrees F.
29. (Currently Amended) The method of claim 10, further comprising the step of:  
(d) heating said combination tall-oil-mix prior to said step (b).
30. (Original) The method of claim 29, wherein said combination tall-oil-mix is heated to approximately 100 degrees F.
31. (Original) A synthetic fuel produced by the method of claim 10.

32. (Currently Amended) A synthetic fuel comprising:  
coal fines; and  
a chemical change agent comprising a tall-oil mix, a thinning agent, a caustic solution and water, and tar decanter sludge (TDS);  
wherein said chemical change agent and said coal fines are combined and processed as to maximize contact between said mix and said ~~raw~~-coal fines.
33. (Canceled)
34. (Currently Amended) The synthetic fuel of claim ~~32~~33, wherein said thinning agent is light cycle oil.
35. (Currently Amended) The synthetic fuel of claim ~~34~~32, wherein said chemical change agent further comprises an enhancer.
36. (Original) The synthetic fuel of claim 35, wherein said enhancer includes one or more of materials from a group consisting of PVA, EVA, urea, glycol, lignosulfonate, beet sugar bottoms, molasses, corn bottoms, brewery bottoms, vegetable tall oil, vegetable oil, and spent frying oil.
37. (Original) The synthetic fuel of claim 32, wherein said coal fines are metallurgical bituminous coal fines.
38. (Currently Amended) A synthetic fuel comprising coal fines ~~and~~, an enhanced-tall-oil-mix, and a thinning agent wherein said enhanced-tall-oil-mix comprises a tall-oil mix and a chemical-change enhancer, wherein said coal fines are treated with said enhanced-tall-oil-mix so as to maximize contact between said coal fines and said enhanced-tall-oil mix.

39. (Original) The synthetic fuel of claim 38, wherein said enhanced-tall-oil-mix comprises approximately 90% tall-oil-mix and 10% chemical-change enhancer.

40. (Original) The synthetic fuel of claim 38, wherein said chemical-change enhancer includes one or more of materials from a group consisting of PVA, EVA, urea, glycol, lignosulfonate, beet sugar bottoms, molasses, corn bottoms, brewery bottoms, molasses, corn bottoms, brewery bottoms, vegetable tall oil, vegetable oil, and spent frying oil.

41. (Original) The synthetic fuel of claim 40, wherein if said chemical-change enhancer is vegetable oil or spent frying oil, said tall-oil-mix includes approximately 25% of said chemical-change enhancer.

42. (Original) The synthetic fuel of claim 38, wherein said coal fines are metallurgical bituminous coal fines.